

- 26 -

The Claims Defining the Invention are as Follows

1. A microparticle composition comprising nanomagnetic particles and a matrix.
2. The microparticle composition according to claim 1 wherein the nanomagnetic particles are incorporated into each microparticle within the matrix.
- 5 3. A microparticle composition(s) comprising nanomagnetic particles and a matrix, wherein said microparticle composition(s) have at least one of the following properties: (a) a VAR of at least about 1 Watts/cm³ subject to appropriate field conditions; (b) a density of about 2.7 or less; or (c) a size of about 100 nm to about 200 microns.
- 10 4. A microparticle composition(s) comprising nanomagnetic particles and a matrix, wherein less than approximately 40% of the microparticle composition(s) is nanomagnetic particles and having at least one of the following properties: (a) a VAR of at least about 10 Watts/cc subject to appropriate field conditions; (b) a density of about 2.7 or less; or (c) a size of about 100 nm to 200 microns..
- 15 5. A microparticle composition(s) a preparation of microparticle composition(s) comprising nanomagnetic particles and a matrix, wherein less than approximately 40% of the microparticle composition(s) is nanomagnetic particles and having at least one of the following properties: (a) a VAR of at least about 10 Watts/cc subject to appropriate field conditions; (b) a density of about 2.7 or less; or (c) a size of about 100 nm to 200 microns.A microparticle composition(s) comprising nanomagnetic particles and a matrix, wherein less than approximately 40% of the microparticle composition(s) is nanomagnetic particles and having the property of a density of about 2.7 or less.
- 20 6. A microparticle composition(s) comprising nanomagnetic particles and a matrix, wherein less than approximately 40% of the microparticle composition(s) is nanomagnetic particles and having the property of a size of about 100 nm to about 200 microns.

- 27 -

7. A microparticle composition(s) comprising nanomagnetic particles and a matrix, wherein less than approximately 40% of the microparticle composition(s) is nanomagnetic particles and having the properties of a VAR of about 10 Watts/cm³ or more subject to appropriate field conditions; a
5 density of about 2.7 or less and a size of about 100 nm to about 200 microns.
8. A microparticle composition(s) according to anyone of claims 1 to 8 wherein the nanomagnetic particles are superparamagnetic particles.
9. A microparticle composition(s) according to claim 9 wherein the superparamagnetic particles are nanoparticles selected from within the group
10 of ferrites of general formula MO.Fe₂O₃ where M is a bivalent metal such as Fe, Co, Ni, Mn, Be, Mg, Ca, Ba, Sr, Cu, Zn, Pt or mixtures thereof, or magnetoplumbite type oxides of the general formula MO.6Fe₂O₃ where M is a large bivalent ion, metallic iron, cobalt or nickel.
10. A microparticle composition(s) according to claim 9 wherein the
15 superparamagnetic particles are nanoparticles of pure Fe, Ni, Cr or Co; oxides of Fe, Ni, Cr or Co; or mixtures of Fe, Ni, Cr or Co.
11. A microparticle composition(s) according to claim 9 wherein the superparamagnetic particle is a nanoparticle of iron oxide such as magnetite (Fe₃O₄) or maghemite (γ -Fe₂O₃) with a particle size less than 50 nanometers
20 and between 1 and 40 nanometers.
12. A microparticle composition(s) according to claim 9 wherein the superparamagnetic particles are maghemite nanoparticles.
13. A microparticle composition(s) according to any one of claims 1 to 13 adapted for use in a patient and which is capable of heating tissue in that patient when
25 exposed to an alternating magnetic field.
14. A method for heating a target site in a patient including the steps of:

- 28 -

- 5 (i) administering a microparticle composition(s) according to any one of claims 1 to 13 to a target site in said patient; and
 (ii) exposing the target site to an AC magnetic field of a clinically acceptable frequency and strength, which is capable of inducing heating of the target site.

15. The method according to claim 15 wherein the microparticles are of a size and density that facilitates the effective transport to ultimately embolise the capillary beds supplying the target site.
- 10 16. The method according to claim 15 wherein the operating conditions of the AC magnetic field is a frequency in the range of about 50-300 kHz and strength of about 60-120 Oe.
17. The method according to claim 15 wherein the operating conditions of the AC magnetic field is a frequency of about 100 kHz and a strength of about 90 Oe.
- 15 18. The use of a microparticle composition according to any one of claims 1 to 13 for the preparation of a medicament for the treatment of diseased tissue.